

The Maryland Fruit Grower

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DORMANT SPRAY FOR PEACHES

Dr. C. Graham, Extension Entomologist, and Dr. R. A. Jehle, Extension Pathologist have written some timely hints on fall spraying, that should be read carefully by peach growers. They state:

"*Peach leaf curl* is one of the worst diseases with which the peach grower has to deal when it is not kept under control. It passes the winter on the tree and can be controlled easily if the tree is sprayed while strictly dormant. Early in the spring the buds start to swell, causing the bud scales to become loose. The spores or "seed" of the peach leaf curl are washed beneath the scales and it is impossible to reach them with spray. Therefore, in order to combat this disease, it is best to apply the spray in the fall as soon as the leaves are off the trees and when the temperature is above 40° F.

The European red mite has been unusually severe in peach orchards this summer which means that there is an abundance of eggs wintering over on the trees. This pest should be taken into consideration when peach curl spray is to be applied.

Scale insects also are serious peach pests and precautions should be taken against them each year to keep the orchard from becoming heavily infested.

Recommendations for Control

The Bordeaux-oil mixture is a good all round spray. It will control peach leaf curl, San Jose scale and European red mite when applied timely and thoroughly. In preparing this mixture, a 6-6-100 Bordeaux plus lubricating oil to make a 3 per cent oil content spray (3 gals. oil per 100 gallons finished spray) is used. If terrapin scale is present, use enough oil to make a 4 per cent oil content spray. The mixture is made in the following manner:

(1) Fill the spray tank about half full of water; (2) start the agitator and add the correct amount of Bordeaux (this acts as the emulsifier); (3) pour in the required amount of oil; (4) pump the mixture through the nozzle back into the tank until it is emulsified; (5) fill the tank with water and use at once.

Concentrated lime-sulfur may be substituted for the Bordeaux-oil spray if there are no red mites in the orchard. If scale is present in the orchard, the lime-sulfur should be used at the rate of 12 gallons and enough water to make 100 gallons of spray. ((Lime-sulfur will not control terrapin scale.)

If there are no insects present in the orchard, the peach leaf curl can be controlled by the use of 6¾ gallons of lime-sulfur and water to make 100 gallons of spray, or by a 6-6-100 Bordeaux without the additional of oil.

Regardless of which one of the materials is used, best results will be obtained by fall spraying. November is a good time. Do not put off spraying until the bud scales have loosened in the spring for it is then too late to control peach leaf curl.

Briefly—For peach leaf curl, San Jose scale, and European red mite control use 6-6-100 Bordeaux plus 3% oil. If terrapin scale is also present make the oil 4%.

If there is no red mite or terrapin scale, forget the Bordeaux-oil, and use concentrated lime-sulfur. If scale insects are to be controlled use the lime-sulfur solution at the rate of 12 gallons per 100 gallons of mixed spray. If no insects are to be controlled, but merely peach leaf curl, use the lime-sulfur solution at the rate of $6\frac{3}{4}$ gallons per 100 gallons of mixed spray, or use 6-6-100 Bordeaux.

Note:—Don't forget to drain and clean spray machinery after spraying is done.

MOUSE CONTROL

Again, it is well to remember that there is no closed season on mouse control. Mice are always hungry, and their habits are not steady. They may decide to nibble on tree roots when they have a fine supply of other foods right in front of them. That may partly explain why they will sometimes refuse to touch some tasty bait which is prepared for them. However, bait seems to be the only effective way of controlling them. Small pieces of sweet potato, carrot, etc. sprinkled with poison and placed in a few burrows around some of the trees where the burrows are noticed, will usually give results.

Poisoned grain bait placed in the burrows also, is effective. The use of poison bait stations is not so good, as mice do not like to appear in the open. There are two main kinds of mice that attack fruit trees. One, the field mouse, has very shallow burrows and generally girdles a tree near the surface of the ground. The other, the pine mouse, burrows deeply and works on tree roots as well as the crown of the tree. Cultivation usually drives the field mouse away. Pulling the trash away from the tree trunks is of help in discouraging crown injury from both types of mice.

Another simple system used is to place some of the bait under some small bundles of fodder scattered about the orchard. This prevents birds from getting the bait.

Farmers' Bulletin 1397,—“Mouse Control in Field and Orchard” published by U. S. Department of Agriculture, Washington, D. C. suggests the following bait mixtures:

Some Poison Bait Mixtures

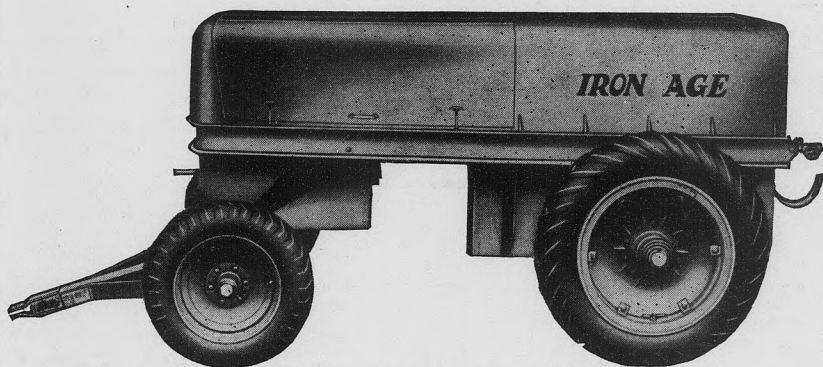
Sweet Potato Bait—Cut 3 quarts. sweet potatoes into $\frac{1}{2}$ inch cubes. Mix $\frac{1}{8}$ ounce of powdered strychnine and $\frac{1}{8}$ ounce baking soda and use a pepper box to sift this over the freshly cut potatoes, stirring constantly to distribute the poison evenly. Use the bait while it is fresh.

Starch-Coated Grain Bait—Mix 1 tablespoonful gloss starch in $\frac{1}{2}$ cup of cold water and stir into $\frac{3}{4}$ pint of boiling water to make a thin clear paste. Mix 1 ounce powdered strychnine with 1 ounce baking soda, and stir into the starch to a smooth, creamy mass free of lumps. Stir in $\frac{1}{4}$ pint heavy corn syrup and 1 tablespoonful glycerine. Apply to 12 quarts of wheat or 20 quarts steam-crushed whole oats, and mix thoroughly to coat each kernel.

About a quart of grain bait is required per acre, where infestation is moderate, increasing the amount where mice are more abundant.

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A CIDER PASTEURIZER

In last month's issue of the Maryland Fruit Grower, the pasteurization of cider was described as being one way of preserving it without giving the cider a cooked taste. D. K. Tressler and Carl S. Pederson at New York Experiment Station, Geneva, have developed a flash pasteurizer that can be made at home at a cost of about \$15.00. Write that Station for Circular 181, if interested.

Is it possible to preserve cider with chemicals? It is, but chemicals may affect color and taste of the cider, depending upon how clean the pressed fruit may have been, and how much chemical was used. The use of high purity benzoate of soda is allowed by the Pure Foods Act, if the amount used is stated on the label, provided the cider is offered for sale. The usual amount suggested is 5 to 6 ounces of benzoate of soda per 50 gallons of cider (0.75%). The cider may develop a slightly bitter taste.

APPLE EXPORTS

Did you ever wonder where your apples went, when they started across the ocean? "Foreign Crops and Markets", May 21, 1938, published by the Bureau of Agricultural Economics, U. S. Department of Agriculture shows the amount of fresh apples exported between July 1937 and March 1938, from the United States. It seems that no figures of exports by States is available. The following figures, in bushels, have been converted from barrels at 3 bushels per barrel and 1 bushel per box or basket:

United Kingdom	4,170,893	Cuba	94,387
Netherlands	701,412	Argentina	113,259
Germany	493,406	Brazil	134,022
France	1,127,011	British India	52,681
Belgium	698,136	British Malaya	44,667
Sweden	355,399	Netherlands Indies	28,327
Denmark	6,494	Hong Kong	39,166
Norway	77,307	Palestine	191,450
Finland	168,328	Philippine Islands	106,297
Other Europe	71,847	Egypt	192,033
Total Europe	7,861,233	Algeria	24,277
		Others	170,269
Canada	245,777	Total	1,557,280
Newfoundland & Labrador	47,377		
Panama	36,088		
Mexico	37,203	Grand Total	9,418,513

Exports for the year 1936-37 totalled 6,755,000 bushels and for the 5-year average 1931-35 totalled 12,870,000 bushels. It is believed that the total for 1937-38 will probably reach 11 million or more bushels before shipments are stopped.

Lady—"Has this dog a good pedigree?"

Salesman—"Lady, if that dog could talk, he wouldn't even speak to either of us."

SPRAYING FOR SCAB AND FIRE BLIGHT OF APPLE

Several years ago, it was suggested that a Bordeaux spray applied when apples were in full bloom, would help in reducing blossom blight and scab. This spray is not a general recommendation as fire blight is not always serious, and is dependent largely upon weather conditions, but it may prove a good cover for scab, if the pink spray is delayed. Some Maryland growers have used it and claim good results, although no check trees were left to compare results.

The effect upon set of fruit was questioned when this spray was applied. Recently, Doud and McCown of Indiana reported in "Hoosier Horticulture", some results in fruit set and the use of the Bordeaux spray in full bloom. The Indiana investigators used 2-6-100 Bordeaux in the 1935-36-37 seasons, on Grimes and McIntosh trees. The sprays were timed according to the opening of the blossoms. The clusters were thinned down to 2 open flowers in 1935 and to 1 open flower in 1936. The spray was applied to each blossom with a hand atomizer immediately after thinning. Entire branches were taken as units, to reduce differences in bloom and set, and one-half of the tree was used as a check, unsprayed. In 1937, the spray was applied with a power sprayer at 400 pounds pressure, using one-half of the tree as a check, and covering that half with tarpaulin to protect it from the spray. This year, a 6 to 100 wettable sulfur was also used. The results showed 41% and 16.7% reduction of fruit set in 1935 and 1936, respectively, when Bordeaux was used. There seemed also to be more reduction as the spray was applied at later dates in the blooming period of the tree. These sprays, it must be remembered, were applied at various times, and the blossoms were rather thoroughly covered with a small atomizer spray. In 1937, when the power sprayer was used, and the spray applied in one application, without first thinning the blossoms, to leave only open flowers, the results showed only a slight reduction (about 1% to 7%) in fruit set, and in some cases, the sprayed trees set more fruit than the unsprayed. It was concluded that the blossom spray, using a commercial sprayer, had no significant effect in reducing the fruit set, when either weak Bordeaux or wettable sulfur was used. Also no effect upon russetting of the fruit was observed in the use of these sprays.

CAN WE ASSIST YOU?

This organization lends money to sound fruit growers to finance the production of their crops—to pay cash for their purchases and save the discount. The interest rate is 5%, for the time the money is actually used. We serve growers in Virginia, West Virginia, Maryland, Pennsylvania and Delaware. Perhaps we can assist you.

**East Central
Fruit Growers Production Credit Association
Hagerstown, Md.**

THE EASTERN APPLE BOX

In August, the Department of Agriculture and Markets, of the State of New York, wrote that they considered the capacity of a box as measured from the top of the sides of the box, and not from the top of the ends of the box. In other words, if the side strips were $\frac{3}{4}$ of an inch below the ends of the box, then the top of the side strips would be considered the top of the box. This would make the $1\frac{1}{5}$ bushel box as outlined in the circulars, a box which should be marked $1\frac{1}{8}$ bushel, considering its cubical contents.

In one part of his letter regarding the apple box, Mr. Barnett Kanzer, Director of New York Department of Agriculture and Markets, states:

"It is regrettable that the whole industry has got into the position where they cannot get away from the thought that the bushel today is only the struck bushel (the heap bushel was abolished in New York State and in the States of New York, New Jersey and Massachusetts, there is no weight per bushel for apples) and does not require any rounding or any bulge and in that case the industry is under no obligation to give more than a bushel when put in a box or basket no more than any other industry is required to give 2 oz. over for 1 lb. in the delivery of any other commodity; namely, the bushel is now 2,150.42 cubic inches just as well as the lb. is 16 ounces."

It seems that the next step in box or basket standardization will be to have a ruling regarding cubical capacities or weights of packed apple containers. Evidently all States are not in agreement as to "what is a bushel of fruit." The Eastern Apple Box, faced and filled is supposed to hold about as many apples as the packed bushel basket. The weight of the packed box and the packed bushel basket is about the same, or about 53 pounds. One of the main ideas of the bulge pack was to allow for shrinkage and still give the customer a bushel of fruit. Maybe we've overdone it.

OTHER MEETINGS

Virginia State Horticultural Society, Winchester. December 6-8, 1938.

New Jersey State Horticultural Society, Hadden Hall, Atlantic City. December 7-9, 1938.

Peninsula Horticultural Society, Dover, Delaware. December 14-16, 1938.

Pennsylvania State Horticultural Association, Farm Show, Harrisburg. January 17-19, 1939.

West Virginia Horticultural Society, Market House, Martinsburg. February 1-2, 1939.

THE FRUIT SHOW—IMPORTANT NOTICE

Growers who intend to exhibit at the Fruit Show, Lord Baltimore Hotel, Baltimore, on January 11, 12, 13, 1939 should send in their entry blanks as soon as possible. If entry blanks have been lost, simply write the number and varieties of plates; number and varieties of diamonds; number and varieties of bushels, as well as boxes that will be entered. Send this to A. F. Vierheller, College Park, Maryland, as soon as possible. Otherwise, it will be impossible to plan for proper or sufficient space and there will be confusion and dissatisfaction. Please do this now. The Fruit Show entries are open only to Maryland growers.

THE ANNUAL MEETING

Plans are going forward for the annual winter meeting to be held at the Armory, Frederick, Maryland on January 4 and 5, 1939. Make your plans to be there. Meetings and exhibits in the same building. Plenty of parking space. We want to have a program of interest to the fruit grower. Send in your suggestions and we will try to follow your suggestions as best we can. Do it now.

TREATMENT OF STUMPS

Where trees have been cut out, and the stumps remain, the following suggestions by Mr. C. F. Winslow, Extension Forester, University of Maryland, will be of interest to growers:

Dry stumps can be burned out by boring holes in the base of the stump and a hole from the top of the stump to meet these holes in the base. Then, if a fire is started in the base, the base holes will form a draft and the vertical hole will serve as a chimney.

Green stumps can be poisoned to prevent sprouting by the following method. With an axe frill the bark within 6 inches of the ground. That is, make a series of downward hacks around the stump and overlap one another so that the wood is exposed, but the bark is still attached to the stump. Then mix a solution consisting of arsenic 1 lb., washing soda 1 lb., water 4 gal., and whiting $\frac{1}{2}$ lb.

When preparing the solution first dissolve the soda in a convenient amount of water, using heat to hasten it, then slowly add arsenic, previously made into a thin paste, stirring all the time; place over hot fire and after it has come to a boil allow it to remain boiling for at least one half hour; stir from time to time, and *be careful to stand on the side away from the fumes*, as they may make you sick. When the arsenic is dissolved the solution may be made up to the required bulk by adding the remainder of the water, either hot or cold.

The addition of whiting is merely that of an indicator to designate the stump treated as it turns white on drying.

The solution should be poured from a tea pot, to prevent wasting, into the frill. This solution will kill a stump in a few days.

This solution is poisonous so care should be taken not to get it on the skin. Wear old clothes and gloves when applying it to stumps. Cover stumps with burlap to prevent children or pets from getting at it.

Farmer Tightwad fell into his cistern. The water was cold and deep, but he could swim. His wife heard him yelling and excitedly called down to him, "I'll ring the dinner-bell and the boys will come in and get you out."

"What time is it?" asked the old man.

"It's near 11 o'clock."

"No, dang it, let 'em work till dinner-time. I'll just swim around till they come."

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WE GUARANTEE that, if you will divide an orchard, your worst or best, in two parts equal in general condition, and for three years spray one part with Scalecide according to our directions and the other part with lime-sulfur or oil emulsion (other than our own), giving the same summer treatment to both parts, the part sprayed with Scalecide will be better than the part sprayed with lime sulfur or oil emulsion—in the judgment of three disinterested fruit growers—or we will refund the money you have paid for the Scalecide.

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Scalecide not only controls insect pests such as scale, red mite, aphids, etc., but aids in cleaning up many forms of cankers, because it is the only oil spray having distinct fungicidal properties. Furthermore the year after year use of Scalecide shows a marked invigorating effect on the trees. No other spray does all this.

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